

CITY OF SOUTH BEND 2018 ANNUAL DRINKING WATER QUALITY REPORT

MAYOR PETE BUTTIGIEG



SUMMARY

South Bend Drinking Water meets all state and US Environmental Protection Agency (EPA) water quality standards.

Delivered 5.31 billion gallons of safe and reliable drinking water for residents, businesses and visitors in 2018.

An average of 14.5 million gallons was treated and distributed to 112,400 customers every day.

CONTACT INFORMATION

This report has been prepared by the City of South Bend Department of Public Works - Division of Utilities.

For more information on water quality, contact the Director of Water Quality at 574.235.5994 or waterquality@southbendin.gov. For after hours concerns or water emergencies, call 574.235.9464. To download this report electronically, visit southbendin.gov/waterquality.

WHERE DOES SOUTH BEND DRINKING WATER COME FROM?

The South Bend Water Works utilizes ground water from the Saint Joseph Aquifer, the Saint Joseph Tributary Valley System and the Hilltop Aquifer as its drinking water source. There are nine well fields available for use containing wells ranging from 106 to 237 feet below the ground surface. There is a treatment plant at each well field. Some of the treatment plants filter out naturally-occurring iron and manganese. Two of the plants have granular activated carbon to remove any volatile organic compounds the water may contain. All treatment plants add fluoride for dental health and chlorine for disinfection. Water Works closely monitors and manages its water quality, and goes above the level of testing required by regulations.

2018 WATER QUALITY TEST RESULTS

NOTE: Not all contaminants are required to be analyzed annually.
The year those contaminants were detected is listed in the report.

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Range of Results	Average Level Detected	Any Violations?	Typical Source of the Contaminant
Regulated Inorganic Contaminants						
Arsenic (ppb) - 2017	0	10	ND - 4.9	ND	No	Erosion of natural deposits, runoff from orchards and glass or electronic waste
Barium (ppm) - 2017	2	2	0.034 - 0.260	0.102	No	Discharge from drilling or metal refineries, erosion of natural deposits
Fluoride (ppm)	4	4	0.1 - 1.0	0.7	No	Water additive for strong teeth, erosion of natural deposits
Nickel (ppb) - 2017	100	100	ND - 1.8	ND	No	Discharge from electroplating, erosion of natural deposits
Nitrate (ppm)	10	10	ND - 4.4	1.5	No	Runoff from fertilizer, leaking septic tanks, sewage, erosion of natural deposits
Regulated Organic Contaminants						
Cis-1,2-Dichloroethylene (ppb)	70	70	ND - 0.7	0.4	No	Discharge from industrial chemical factories
Trichloroethylene (ppb)	0	5	ND - 0.8	ND	No	Discharge from metal degreasing sites and other factories
Radioactive Contaminants (2016)						
Radium (pCi/L)	0	5	0.263 - 2.26	0.955	No	Erosion of natural deposits
Gross Alpha (pCi/L)	0	15	-0.100 - 4.67	1.66	No	Erosion of natural deposits

Terms and Measurements

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there

is no known or expected risk to health. MRDLG does not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a system must follow.

Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.

ppm: Parts per million or milligrams per liter (mg/L)

ppb: Parts per billion or micrograms per liter (µg/L)

pCi/L: Picocuries per liter, used to measure radioactivity.

ND: Not detected. ND is used when some samples or the average results from all samples is below the level that the contaminant can be detected.

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed for Rolling Annual Average (MCL)	Range of Individual Results	Highest Rolling Annual Average	Any Violations?	Typical Source of the Contaminant
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Disinfection and Disinfection By-Products

Free Chlorine Residual (ppm)	(MRDLG) 4.0	(MRDL) 4.0	0.3 - 1.6	0.7	No	Drinking water disinfection
Total Trihalomethanes (ppb)	NA	80	14.6 - 46.6	29.2	No	By-product of drinking water disinfection
Haloacetic Acids (ppb)	NA	60	2.8 - 7.5	4.4	No	By-product of drinking water disinfection

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Range of Results	# Positive Samples/ Total # Collected	Any Violations?	Typical Source of the Contaminant
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Microbial Contaminants

Total Coliform (% Positive/ month)	0	5%	0%	0/1768	No	Naturally present in the environment
E. Coli (#Positive/month)	0	0	0	0/1768	No	Human and animal waste

Total coliforms are a group of closely related, mostly harmless bacteria that live in soil and water as well as the gut of animals. Because total coliforms are common inhabitants of ambient water and may be injured by environmental stresses (lack of nutrients) and water treatment (chlorine disinfection) in a manner similar to many pathogens, EPA considers them a useful indicator of these pathogens. Total coliform samples are also tested for E. Coli. E. Coli is a total coliform that is commonly found in the intestines of animals and humans.

UNREGULATED CONTAMINANTS

The EPA uses the Unregulated Contaminant Monitoring Rule to collect data for contaminants that are suspected to be present in drinking water and do not have health-based standards set under the Safe Drinking Water Act. This data set is one of the primary sources of occurrence and exposure information the Agency uses to develop regulatory decisions for emerging contaminants.

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	Highest Level Allowed (MCL)	Range of Results	Average Level Detected	Any Violations?	Typical Source of the Contaminant
Unregulated Organic Contaminants						
Bromodichloromethane (ppb)	No MCLG	No MCL	ND - 0.9	ND	NA	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	60	No MCL	ND - 1.1	ND	NA	By-product of drinking water disinfection

		Range	Average
South Bend Water Quality Parameters			
pH (s.u)	No MCL	7.1 - 8.0	7.4
Hardness (ppm as CaCO3) *	No MCL	201 - 454	349
Alkalinity (ppm as CaCO3)	No MCL	212 - 376	290
Calcium (ppm)	No MCL	58 - 109	86
Sodium (ppm)	No MCL	10 - 74	42
Magnesium (ppm)	No MCL	23 - 38	31
Chloride (ppm)	No MCL	41 - 162	92
Lead (ppm)	No MCL	ND	ND
Total Dissolved Solids (ppm)	No MCL	348 - 640	504
Sulfate (ppm)	No MCL	29 - 87	53
Ammonia (ppm)	No MCL	ND	ND

FREQUENTLY REQUESTED WATER QUALITY PARAMETERS

Data in this table was obtained from analysis of all wellfields used in 2018.

*Average Hardness = 20 grains/gallon

Although this is the average hardness, we recommend setting your softener to 19 grains/gallon and increasing if you don't feel it is doing an adequate job. Setting your softener too high may make your water corrosive to your pipes.

ND means not detected.

Contaminant (unit of measure)	EPA's Ideal Goal (MCLG)	EPA's 90th Percentile Action Level (AL)	Number of Samples Over the AL*	Our 90th Percentile	Any Violations?	Typical Source of the Contaminant
2016 Lead and Copper (analyzed every 3 years)						
Copper (ppb)	1300	1300	1	180	No	Corrosion of household plumbing
Lead (ppb)	0	15	3	4.5	No	Corrosion of household plumbing

Compliance for the lead and copper rule is based on whether 90% of samples have results less than EPA's Action Level (AL). Results in follow up samples were all below the AL.

*Samples over the AL were taken from two residences.

Commonly Found Drinking Water Contaminants

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material; and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present include the following:

- Microbial contaminants, such as viruses and bacteria, may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife.
- Inorganic contaminants, such as salts and metals, can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- Pesticides and herbicides may come from a variety of sources such as agriculture, urban storm water runoff, or residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, are by-products of

industrial processes and petroleum production and can also come from gas stations, urban storm water runoff, and septic systems.

- Radioactive contaminants can be naturally-occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the Indiana Department of Environmental Management and EPA prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426.4791.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-

compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The EPA and Centers for Disease Control guidelines on appropriate means to lessen the risk of infection by microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426.4791.

Lead In Drinking Water

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. South Bend Water Works is responsible for providing high quality drinking water but cannot control the variety of materials used in plumbing components. When water has been sitting for several hours, minimize the potential for lead exposure by flushing the tap for 20 seconds to 2 minutes before using water for drinking or cooking.



DEPARTMENT OF PUBLIC WORKS Division of Utilities

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HELP PROTECT SOUTH BEND'S DRINKING WATER

The City is looking for residents to join its Wellhead Protection Committee, which is tasked with updating the Wellhead Protection Plan in 2019. The Wellhead Protection Plan is a required plan that helps protect the groundwater used for a community's public water supply from contamination. The plan includes a delineation of each wellfield with the one-and five-year travel time for contaminants, which are called the Wellhead Protection Areas (WHPA). It also details an inventory of potential sources of contamination in each WHPA, signage to inform the public of a Wellhead Protection Area, Management Plan to prevent future contamination, and a Contingency Plan should an emergency occur.

For more information, contact 574.235.5994
or waterquality@southbendin.gov.

If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at epa.gov/safewater/lead.

Public Outreach

Water Works has plumbers distribute door hangers to residents prior to a repair through the service line insurance program. Special door hangers are provided to residents who are likely to have a lead service line. Recent studies have shown that lead may temporarily increase in tap water when a lead service line has been disrupted. Transparency with customers is key to their well-being, which is why Water Works is making customers aware of these precautions in order to minimize lead exposure after a scheduled disruption.

Synthetic Organic Compounds

In addition to the contaminants, the City also tests for Synthetic Organic Compounds (SOC). SOCs are carbon based, man-made chemicals such as pesticides, herbicides and degreasers. The water leaving each of the drinking water treatment plants was tested during both the second and third quarters of the year. Each sample was tested for 29 regulated compounds and 13 unregulated compounds. No SOCs were detected in any of the samples. The following SOCs were tested for and not found in the water:

Alachor (Lasso), Atrazine, Benzopyrene, Carbofuran, Chlordane (alpha & gamma), 2,4-D, Dalapon, DBCP, Dinoseb, Dioxin, Diquat, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl) phthalate, Endothall, Endrin, Ethylene Dibromide (EDB), Glyphosate (Round-up), Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane, Methoxychlor, Oxamyl (Vydate), Pentachlorophenol, Picloram (Tordon), PCBs, Simazine, 2,4,5-TP (Silvex), Toxaphene, Aldicarb, Aldicarb Sulfone, Aldrin, Aldicarb Sulfoxide, Butachlor, Carbaryl, Dicamba, Dieldrin, 3-Hydroxycarbofuran, Methomyl, Metolachlor, Metribuzin, and Propachlor.